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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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IBM COROPORATION
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EXAMINER

ALVAREZ, RAQUEL

ART UNIT PAPER NUMBER

3622

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,931

Applicant(s)

BODEN ET AL.

Examiner

Raquel Alvarez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-21, 23, 26, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) 22, 24, 25, 27, 29-39 and 42-44 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/9/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to communication filed on 11/1/2004.
2. Claims 1-21, 23, 26 and 40-41 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-10, 12, 18-32, 23, 26, 40-41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

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Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for

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determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, independent claims 1, 10, 12, 18, 20, 23, 26, 40 and 41, recite no structural limitations (i.e., computer implementation), and so it fails the first prong of the test (technological arts).

4. Claims 1-21, 23, 26 and 40-41 are rejected under 35 U.S.C. 101 because there's no practical application of what the business process or processes is being used for. The claims do not produce a useful, concrete and tangible result. *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02

Correction is required.

From this it can be seen that the broadest reasonable equivalent disclosed fails to pass the first prong technological arts test and therefore recites non-statutory subject matter under 35 USC 101.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-7, 9-21, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over IBM bulletin titled , "Managing Workflow Using Database Techniques" hereinafter IBM bulletin in view of Billyard (GB 2,271,260 hereinafter Billyard).

With respect to claim 1, IBM bulletin teaches a method for representing a business process (illustration on page 199). Defining a process as a 3-tuple including a noun (i.e. work items are sets of medical exams performed on patients)(page 199), a verb (i.e. work-items are organized into work-lists according to the work needed to be done on them)(page 200), and an attribute (i.e. each work-item has a set of attributes. Some of these attributes relate to its content, and some relate to its state)(page 200). The IBM bulletin does not specifically teach displaying the selected process as a point in navigation space. On the other hand, Billyard teaches displaying the defining points into the viewing space (Abstract). It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying the points set forth in the IBM bulletin as a point in navigation space because such a modification would define the extent of points for an object in each dimension and would provide a

test for determining whether an object will be present in viewing space (page 3, lines 23-, page 4, lines 1-7).

With respect to claim 2, IBM Bulletin teaches allowing the user to pick work-items (nouns, verb (work-lists) and attributes from a specific list (page 200, paragraph 3). The combination of IBM Bulletin and Billyard teach displaying the point in navigation space corresponding to the 3-tuple (see rejection of claim 1). Since the combination of IBM bulletin and Billayrd teach highlighting a selected pointing navigation space (Figures 7 and 8) then it would have been obvious to a person of ordinary skill in the art to highlight the entire 3-tuple process because such a modification would allow the user to interpret the entire process as a whole.

With respect to claims 3 and 4, the claims further recite that in response to a user selection of a zoom in, zoom out action highlighting in a new navigation space the selected process points (in Billyard figures 7 and 8). The combination of IBM bulletin and Billyard do not specifically teach that the highlighting of the new navigation process in response to a user selection of a zoom in, zoom out selection. Official notice is taken that zooming is old and well known in the computer related arts for users to enlarge or decrease in size selected window or portion of a graphical image on the screen. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included zooming in and out action in response to the user's selection to obtain the above mentioned advantage.

With respect to claim 5; IBM Bulletin further teaches accepting and storing a 3-tuple process definition (page 200).

With respect to claim 6, the claim further recites that responsive to a user selection of a process edit action in connection with a selected process, displaying the process definition corresponding to said selected process for editing by said user. Since in the IBM bulletin humans (users), programs or a combination thereof can dictate and update the items in the database corresponding to a process (page 200) then it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to allow the user to make changes (edit) to the corresponding process selected by the user.

With respect to claim 7, IBM bulletin teaches that responsive to a user selection of a run process action in connection with a selected process, executing said process (page 200).

With respect to claim 9, IBM bulletin teaches a system for representing business process (illustration on page 199). Defining a process as a 3-tuple including a noun (i.e. work items are sets of medical exams performed on patients)(page 199), a verb (i.e. work items are organized into work lists according to the work needed to be done on them)(page 200), and an attribute (i.e. each work item has a set of attributes. Some of

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these attributes relate to its content, and some relate to its state)(page 200). These 3-tuples are stored in a database in order to facilitate control of the work-flow (page 200). The IBM bulletin does not specifically teach displaying the selected process as a point in navigation space. On the other hand, Billyard teaches displaying the defining points into the viewing space (Abstract). It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying the points set forth in the IBM bulletin as a point in navigation space because such a modification would define the extent of points for an object in each dimension and would provide a test for determining whether an object will be present in viewing space (page 3, lines 23-, page 4, lines 1-7).

Claims 10 and 11 differ from claims 1 and 9 in that the claims further recite computer program code for performing the system and method of claims 1 and 9. Since IBM bulletin is performed on a computer therefore it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included a computer program code which allow the computer to execute a sequence of instructions.

Claims 12, 17 and 21 differ from claim 1 in that the claims further recite nesting a first navigation in a process point in a second navigation space. It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included in the business process of IBM bulletin nesting a first navigation process point

in a second navigation space because such a modification would determine the extent to which each point are transformed into the navigation space (in Billyard, Abstract).

With respect to claim 13, it further recites displaying said first and second navigation space in two panels within a window display. Since the combination of IBM bulletin and Billyard teach in Figure 13, nesting a first navigation process point in second navigation space then it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying said first and second navigation space in two panels within a window display because such a modification would enable the two navigation spaces to be clearly represented.

With respect to claims 14 and 15, since the combination of IBM bulleting and Billyard teach a noun, a verb and an attribute (see claim 1) then it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying within each navigation space as a noun list, a verb list and an attribute list and highlighting point in each panel because such a modification would give a visual representation of exactly what the components of the process are.

With respect to claim 16, it further recites enabling a user to traverse nested navigation space. Since, the combination of IBM bulleting and Billyard teach nesting in a navigation space (see claim 12) then it would have been obvious to a person of ordinary skill in the art a the time of Applicant's invention to have included enabling a

user to traverse nested navigation space because such a modification would enable the user to traverse if he deems necessary.

With respect to claims 18, 20, 26, 28 IBM bulletin teaches defining a process of an organization in a manner which facilitates understanding, use and change (page 199-120). Providing a business process including at least one verb dimension (i.e. work-items are organized into work-lists according to the work needed to be done on them)(page 200), at least one noun dimension (i.e. work items are sets of medical exams performed on patients)(page 199), and at least one attributes relate to its content, and some relate to its state)(page 200).

With respect to representing the sets of points in n-dimensional space and selecting said point selectively to view modify or execute the business process represented by said point. On the other hand, Billyard teaches displaying the defining points into the viewing space and being able to selectively view, modify or execute the process represented by said point (abstract). It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying the points set forth in the IBM bulletin as a point in navigation space and being able to selectively view, modify or execute the business process represented by said point because such a modification would define the extent of points for the business process of IBM bulletin and would allow the changes and modification at each dimension.

With respect to claim 19, since the combination of IBM bulletin and Billyard teach a noun, a verb and an attribute (see claim 1) then it would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to have included displaying within each navigation space a noun list, a verb list and an attribute list and highlighting a point in each panel because such a modification would give a visual representation of exactly what the components of the process are.

Allowable Subject Matter

6. Claims 23, 40, and 41 are allowed.

With respect to claims 23, 41 the Examiner asserts that visually displaying in a display panel a navigation space and a plurality of scrollable lists, a verb list and an attribute list and responsive to a selection of two entries from two of said lists, highlighting in said navigation space a highlighted plane of points representing process tuples for all entries in the list not selected and responsive to selection of a highlighted point, in combination with the other limitations is not taught in the prior art of record.

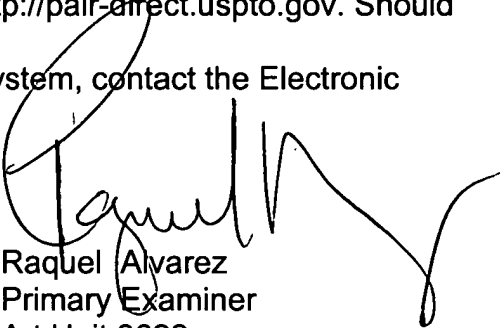
With respect to claim 40, the Examiner asserts that said customer selecting a said point to modify said representation for the process represented by said point to modify said representation for the process represented by said point to modify said representation for the process represented by said point by selectively adding, deleting and changing a set of expressions representing said attributes dimension, each said expression being capable of evaluation to a Boolean value, in combination with the other limitations of the claim is not taught in the prior art of record.

Point of contact

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raquel Alvarez whose telephone number is (703)305-0456. The examiner can normally be reached on 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric w Stamber can be reached on (703)305-8469. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Raquel Alvarez
Primary Examiner
Art Unit 3622

R.A.
1/10/05